PRELIMINARY SEDIMENT BUDGETS FOR FOUR WATERSHEDS AT THE KINGS RIVER EXPERIMENTAL WATERSHED IN THE SOUTHERN SIERRA NEVADA

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Abstract: The Kings River Experimental Watershed (KREW) was initiated in 2000 to quantify the variability in characteristics of small stream ecosystems and their associated watersheds in the Sierra Nevada of California. The primary management questions to be answered are the effects of prescribed fire and mechanical harvest on the riparian and stream physical, chemical, and biological conditions. Soil erosion and sediment loads affect stream organisms, forest health and human water users. The magnitude and contribution from roads, undisturbed areas and headcuts is not well understood for the southern Sierra Nevada.

The Providence site contains four 100-hectare watersheds at 5,800 feet on the Sierra National Forest. One watershed will receive no treatment (control), one will be burned, one will be harvested, and one will be harvested and then under-burned. This presentation will focus on sediment movement during the pretreatment baseline period.

KREW staff has collected annual sediment catchment data and continuous discharge data since 1October 2002. We also have data on head cut recession and sediment delivery from natural slopes and roads. In October of 2005 we began collecting turbidity data on these same streams. These data allow us to develop a preliminary sediment budget.